EIS000270

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BEFORE THE U.S. DEPARTMENT OF ENERGY (DOE) COMMENTS OF THE SIERRA CLUB ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR A GEOLOGIC REPOSITORY FOR THE DISPOSAL OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE AT YUCCA MOUNTAIN, NYE COUNTY, NEVADA

Presented by Susan Maret, Denver, Colorado, Public Hearing, November 16, 1999

1 The Sierra Club's review of the DOE's DEIS for the proposed Yucca Mountain geologic repository finds serious deficiencies that cause us to recommend that this **draft document be withdrawn** for revision and completion prior to any further consideration of its adequacy to meet the requirements of the Nuclear Waste Policy Act, the National Environmental Policy Act, the Atomic Energy Act, and all other statutes pertaining to present and future health, safety, and quality of the environment.

2 The omissions and uncertainties that appear throughout this document, with respect to information essential to the evaluation of the environmental impacts of this proposed federal action, render it arbitrary and capricious in the judgments of the Department as to what can be ignored or dismissed, and therefore unacceptable.

3 As we stated in our 1995 comments on the *Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain*, Sierra Club is opposed to further study of Yucca Mountain as a solution to the nation's high-level nuclear waste problem. We stand before you, four years later, our position unchanged; Sierra Club remains ardently opposed to the Yucca Mountain Project.

Transportation Issues

4... DOE has inadequately characterized the impacts of transportation accidents and public health risks along designated nationwide routes. Using shipment numbers as listed in the DEIS and highway routing studies prepared by the UNLV Transportation Research Center, the State of Nevada has developed a

4 cont. preliminary estimate of potential legal-weight truck shipments through Colorado and Wyoming to Nevada.

Under the **mostly truck scenario**, there would be about 35,350 shipments through Denver over 39 years. To state this in another way, there would be an average of 2.5 truck shipments per day of highly radioactive material on I-70 through Denver every day, seven days a week, for as many as 39 years.

In 1995, Mr. Robert Halstead, a consultant for Nevada's Agency for Nuclear Projects, commented at the Scoping meeting held in Denver that "Colorado is an example of a state which would much more heavily affected by DOE's proposed multipurpose canister (MPC) base case." Mr. Halstead also stated during the 1995 hearing that Colorado reviewers of the EIS would have "No basis for evaluating the range of potential transportation impacts on unique local conditions." It was Sierra Club's concern then, as it is now, that high-level nuclear waste shipments traversing Denver and moving through the Eisenhower/Glenwood Tunnels **is a dangerous, foolhardy enterprise** as well as a significant public health hazard.

For this most recent hearing, Mr. Halstead has estimated that almost 9,100 rail shipments of highly radioactive material would move through Colorado and Wyoming over 39 years, an average of about 4.5 cask-shipments per week, and every week, for 39 years. Almost all of the rail shipments would follow the Union Pacific mailine from Gibbon, Nebraska to Salt Lake City through northeastern Colorado and southern Wyoming. Shipments from one reactor in Illinois would use the former Southern Pacific route through Grand Junction.

In addition, there would also be a considerable number of legal weight truck shipments through Colorado under the current capabilities scenario. Approximately 12,660 truck shipments would travel through Colorado on I-70, an average of 6.2 shipments per week, every week, for 39 years.

Sierra Club is not only concerned with radiation exposure to truckers, travelers, and those who live and work along the route, but accidents that will
27 occur during shipment of this highly radioactive waste. We are also very concerned with any possible terrorist activities.

The Waste Isolation Pilot Plant and Yucca Mountain

5... Sierra Club reminds DOE that Colorado, as well as other states, are currently bearing the burden of transuranic waste shipments (TRU) from various weapons facilities around the U.S. to the Waste Isolation Pilot Plant (WIPP), located near Carlsbad Caverns in New Mexico.

5 cont.

Under the WIPP transportation scenario, DOE has estimated that 38, 089 truck shipments to WIPP during a 35-year period would result in

...6 deaths ...48 injuries
from 76 transportation accidents

DOE has failed to integrate WIPP and Yucca Mountain transportation risk analyses or accident scenarios into one risk model.

For citizens traveling on Colorado and the nation's highways, exposures from WIPP and Yucca Mountain wastes represent a public health hazard as well as a violation of the principle of informed consent. DOE has also failed to inform emergency responders and state transportation departments of potential problems by not integrating WIPP and Yucca Mountain accident and risk data.

Additional Problems with the DEIS

Factors that give rise to public concerns about and opposition to approval of the Yucca Mountain site for the "disposal" of intensely irradiated "spent" fuel from commercial nuclear power reactors and other high-level radioactive wastes - or for the long-term storage of highly radioactive reactor fuel and other wastes now destined for Yucca Mountain include, among many others, the following:

6 ** research findings by both DOE and independent scientists of the numerous geologic inadequacies and unknowns that characterize this site (e.g., future seismic behavior of the Solitario Canyon, Sundance, and Ghost Dance faults, and others), in combination with many uncertainties about the as-yet incomplete repository design, which is required together with the site geologic characteristics to contain the wastes;

7 ** the depth and breadth of all uncertainties associated with Yucca Mountain to be able to assure waste isolation for the full time period of the toxicity of the wastes, or even for the 10,000 years for which the Department is responsible for providing sequestration from future human beings and the environment, much less for the more distant 100,000-plus years time of projected maximum dose;

8 ** failure and inability to assess, from recent events, future impacts of nearby or more distant seismic and volcanic activity upon waste isolation at this site;

9... ** inattention to potential impacts of global warming and other future

9 cont. climate change relating to both air and water pathways of radiation releases into the biosphere;

10 ** adoption by DOE of population assumptions and radiation dose limits which are based on additional assumptions that lack appropriate conservatism to protect all members of either present-day or future populations from radiation-induced harm;

11 ** omission of the full range of non-fatal, non-cancer health and genetic damage which human beings may experience from low-level radiation exposures;

12 ** failure to ascertain these low-dose effects for the most sensitive and vulnerable members of a population (embryo, fetus, pregnant woman, rapidly growing young child, the aged, those with previously impaired health);

13 ** adoption of arbitrarily limited, unrealistic scenarios, cultural and economic systems and characteristics, to describe future conditions and situations affecting future populations;

14 ** failure to provide for the protection of all components of the biosphere -- of the environment for its own sake -- from radiation-related harm;

15 ** failure in dose calculations to account for the additive, multiplicative, and synergistic relationships of radiological and other biologically hazardous pollutants, factors, and conditions ultimately affecting recipients;

16 ** inadequate consideration of the traditional basis of risk acceptance: that, for any additional dose above naturally-occurring background radiation, the individual recipient shall obtain a benefit greater than or commensurate with the added risk incurred and shall have the option of refusing the additional dose;

17 ** repeated adjustments of siting and safety requirements - relaxing and thereby weakening them - in order to be able to submit to the Nuclear Regulatory Commission a license application capable of being approved, rather than adherence to the original intent of the pertinent statutes;

18 ** use of high costs to the generators of nuclear waste as a justification
19 for relaxations of health and safety requirements, and failure to include in cost-benefit analyses all costs to the affected populations and to the environment of potential failures of control;

20... ** failure to account for additive sources of contamination from nearby

20 cont. areas, including but not limited to spread of radioactivity and hazardous materials or wastes from the Nevada Test Site and Nellis Air Force Base, or for future potential additional pollution sources in adjoining areas;

21 ** failure of the Department to honor all treaty rights and claims of the Western Shoshone to the ownership and protection of the inhabitants and environment of this land, which was taken from their people by the U.S. federal government under the Ruby Valley Treaty of 1863;

22 ** the Department's failures to provide for real, meaningful, as opposed to a false appearance of, public participation throughout the DOE's decision-making process, or to heed public advice;

23 ** ignoring or outright dismissing critical comments and recommendations of the State of Nevada, local government officials, and members of the public, as well as those of independent scientists, throughout the history of the program and the development of this DEIS; and

24 ** utilizing contrasting improbable alternative scenarios to the Yucca Mountain site, without giving appropriate consideration to other means of control and isolation of nuclear wastes, nor to the benefits of curtailing or stopping the production of additional quantities of high-level waste;

25 ** omitting impacts of political and economic changes affecting the commercial nuclear and defense industries with respect to their continued safe management of all radioactive wastes.

The Solution

26... To remedy DOE's misguided nuclear waste disposal policy, and to achieve the safest management and isolation of all radioactive materials and wastes, the Sierra Club strongly urges adoption of the **Precautionary Principle** by the Department of Energy. [1] This Principle is variously defined but in essence states: "Until a practice or substance is proven safe, it should be treated as though it is unsafe."

Unquestionably, ionizing radiation is not safe for living beings; the **Linear Hypothesis of Dose and Response** remains basic to radiation standards. The Precautionary Principle helps us to avoid potentially dangerous impacts of substances that are persistent, toxic, and liable to bioaccumulate even when there is little scientific evidence to

[1] Wingspread Statement on the Precautionary Statement http://www.wajones.org/wajones/wingcons.html; Also see *Protecting Public Health & the Environment : Implementing the Precautionary Principle* edited by Carolyn Raffensperger and Joel Tickner, Island Press, 1999.

26 cont. prove the strength of the causal link between release and effects. EIS000270

The Precautionary Principle also implies that decision-makers should act in advance of scientific certainty to prevent harm to humans and the environment. In Canada, this principle has been expanded to cover all government policies with the potential to degrade the environment. The Bergen Declaration states, in part:

> .....[P]olicies must be based on the Precautionary Principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

This reasoning underscores the necessity of halting the accumulation of nuclear wastes. It then follows:

** the task of the Department is to halt its relentless drive for approval of the inadequate Yucca Mountain site;

** explain to the Congress why it should not proceed;

** and give serious reconsideration to finding the least dangerous, most equitable methods of retaining control of all of the radioactive wastes required to be disposed of in a regulated facility, in a manner that will best assure that future populations will have an opportunity equal with our own to be able to continue to maintain control for the duration of its hazardous lifetime.

Sierra Club appreciates the opportunity to offer our comments on the Yucca Mountain Draft Environmental Impact Statement as well as our safety concerns with the Waste Isolation Pilot Plant.

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